

# PROJECT 10073 RECORD CARD

1. DATE 14 June 1963		2. LOCATION OS ECHO (Atlantic)		12. CONCLUSIONS <input type="checkbox"/> Was Balloon <input type="checkbox"/> Probably Balloon <input type="checkbox"/> Possibly Balloon  <input type="checkbox"/> Was Aircraft <input type="checkbox"/> Probably Aircraft <input type="checkbox"/> Possibly Aircraft  <input type="checkbox"/> Was Astronomical <input type="checkbox"/> Probably Astronomical <input type="checkbox"/> Possibly Astronomical  <input checked="" type="checkbox"/> Other Satellite ECHO I <input type="checkbox"/> Insufficient Data for Evaluation <input type="checkbox"/> Unknown	
3. DATE-TIME GROUP Local _____ GMT 14/2301Z		4. TYPE OF OBSERVATION <input checked="" type="checkbox"/> Ground-Visual <input type="checkbox"/> Ground-Radar <input type="checkbox"/> Air-Visual <input type="checkbox"/> Air-Intercept Radar			
5. PHOTOS <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		6. SOURCE Military			
7. LENGTH OF OBSERVATION Not reported		8. NUMBER OF OBJECTS one		9. COURSE NE	
10. BRIEF SUMMARY OF SIGHTING Satellite in transit from SW to NE. 1st mag. Estimated altitude 75 deg 30 min max.				11. COMMENTS  ECHO I. ECHO crossed equator at 2236Z at 74.41W and reached peak of orbit at 2304Z. This would place the Satellite in the area of the sighting.	



DEPARTMENT OF THE AIR FORCE  
STAFF MESSAGE BRANCH  
UNCLASSIFIED MESSAGE

**I N C O M I N G**

AF IN : 192 (15 Jun 63) A/r1j

ACTION: NIN-9

INFO : XOP-1, XOPX-4, SAF-OS-3, ARMY-2, NAVY-2, CMC-8, JCS-35,  
DIA-25, DIA/CIIC-2, OSD-15, NSA-7, CIA-11 (125)

SMB E 007

ZCZCHQA293ZCECA008-

OO RUEAHQ

DE RUEGUF 002

ZNR

O 142331Z

FM COMEASTAREA

TO RUCKHC/CINCLANTFLT

RUWGALB/CINCNORAD ENT AFB COLO

RUEAYQ/COFS USAF WASHDC

RUCKDT/COMASWFORLANT

RUEGUH/COMEASTSEAFRON

RCEOM/CANCOMARLANT

RCCSC/CANAIRDEF

INFO RUECJD/COMDT COGARD

P 142322Z

FM OS ECHO

TO COMEASTAREA

GR18

BT

UNCLAS. MERINT.

2301Z OBSERVED APPARENT SATELLITE TRANSIT SW TO NE. FIRST  
MAGNITUDE. EST MAX HEIGHT 75 DEGREES 30 MINUTES.

BT

NOTE: Adv cy to NIN, XOPX & DIA.



JUNE 5, 1963

## SATELLITE 1960 IOTA 1, WCHO I

These predictions are based on orbital elements revised on June 3, 1963

T - June 4.0, times are in days, U.T.

Argument of perigee = 276.306 + 3.3877 (t-T<sub>0</sub>)Right ascension of ascending node = 203.064 - 3.2982 (t-T<sub>0</sub>)

Inclination = 47.2357

Eccentricity = 0.044912 + 6.22 × 10<sup>-4</sup> (t-T<sub>0</sub>)

Semi-major axis = 7.842655 megameters

Mean anomaly (Rev.) = 0.32350 + 12.498859 (t-T<sub>0</sub>) + 3.0853 × 10<sup>-4</sup> (t-T<sub>0</sub>)<sup>2</sup>

SATELLITE 1960 IOTA 1 FOR OTHER LATITUDES							SATELLITE 1960 IOTA 1 FOR OTHER LATITUDES														
EQUATOR S-M			SOUTH-NORTH				NORTH-SOUTH				EQUATOR S-M			SOUTH-NORTH				NORTH-SOUTH			
TIME (UT)	LONG. (M)	LAT.	TIME CORR.	LONG. CORR.	MT. (M)	BEAR. (M-E)	TIME CORR.	LONG. CORR.	MT. (M)	BEAR. (M-E)	TIME (UT)	LONG. (M)	LAT.	TIME CORR.	LONG. CORR.	MT. (M)	BEAR. (M-E)	TIME CORR.	LONG. CORR.	MT. (M)	BEAR. (M-E)
JUNE 8, 1963																					
1 39.0	90.67	47.4	29.9	-82.43	1135	90.00	29.9	-82.46	1135	90.00	1 39.6	106.43	47.4	29.3	-82.56	1119	90.00	29.3	-82.60	1119	90.00
3 34.1	119.79	49.0	24.2	-60.60	1109	72.30	35.6	-104.27	1147	107.70	3 38.7	135.54	45.0	23.7	-60.73	1071	72.30	35.0	-104.41	1149	107.70
5 29.2	148.90	40.0	19.0	-45.43	1085	60.70	40.2	-116.41	1141	119.40	5 23.7	164.45	40.0	19.3	-45.54	1073	60.70	39.6	-116.55	1157	119.40
7 24.3	178.02	35.0	16.5	-35.84	1031	54.00	43.5	-124.95	1128	126.10	7 18.4	193.78	35.0	16.1	-35.95	983	54.00	43.0	-129.08	1154	126.10
9 19.4	207.14	30.0	13.7	-28.56	999	48.40	46.8	-134.22	1112	130.70	9 13.9	222.88	30.0	13.4	-28.64	946	48.40	48.0	-136.34	1149	130.70
11 14.5	236.26	20.0	8.4	-17.32	938	43.70	51.0	-147.40	1071	136.40	11 9.0	251.99	20.0	8.6	-17.37	881	43.70	51.2	-147.50	1116	136.40
13 9.6	265.37	0.0	0.0	0.0	828	40.00	60.9	-164.59	971	140.10	13 4.1	281.10	0.0	0.0	0.0	772	40.00	60.7	-164.65	1028	140.20
15 4.7	294.49	-20.0	-8.4	17.41	740	43.80	-45.4	148.98	842	136.30	14 50.1	310.21	-20.0	-8.2	17.45	698	43.80	-45.4	148.98	915	136.30
16 0.0	323.61	-30.0	-12.9	28.78	708	49.50	-40.7	137.44	807	130.50	16 54.2	339.32	-30.0	-12.6	28.84	677	49.50	-40.6	137.69	853	130.60
18 0.0	352.73	-35.0	-15.3	36.16	696	54.10	-38.7	130.31	780	126.00	18 49.3	368.44	-35.0	-15.0	36.23	671	54.10	-38.0	130.35	821	126.00
20 0.0	381.84	-40.0	-18.6	43.84	687	60.80	-35.3	128.65	752	119.20	20 44.4	397.55	-40.0	-17.8	43.92	671	60.80	-35.1	120.70	784	119.20
22 0.0	410.96	-45.0	-21.8	51.19	685	72.40	-31.4	105.32	721	107.60	22 39.4	426.66	-45.0	-21.6	51.26	679	72.40	-31.1	105.39	745	107.60
24 0.0	440.08	-47.4	-24.6	58.24	695	90.00	-26.6	87.28	695	90.00	24 34.5	455.77	-47.4	-24.3	58.32	705	90.00	-26.3	83.36	705	90.00
JUNE 9, 1963																					
0 40.2	40.08	47.4	29.7	-82.56	1135	90.00	29.8	-82.48	1135	90.00	0 34.5	95.77	47.4	29.2	-82.40	1119	90.00	29.2	-82.44	1113	90.00
2 35.3	109.19	49.0	24.1	-60.63	1097	72.30	35.5	-104.30	1140	107.70	2 29.6	124.88	45.0	23.6	-60.76	1062	72.30	34.9	-104.45	1147	107.70
4 30.4	138.31	40.0	19.7	-45.45	1056	60.70	40.0	-116.44	1144	119.40	4 24.7	153.99	40.0	19.7	-45.57	1011	60.70	39.5	-119.99	1150	119.40
6 25.5	167.42	35.0	16.4	-35.88	1021	54.00	43.4	-128.98	1136	126.10	6 19.7	183.10	35.0	16.0	-35.98	970	54.00	42.9	-129.12	1159	126.10
8 20.6	196.54	30.0	13.6	-28.58	987	48.40	46.4	-134.24	1121	130.70	8 14.8	212.21	30.0	13.3	-28.66	933	48.40	45.8	-136.37	1152	130.70
10 15.7	225.66	20.0	8.7	-17.33	925	43.70	51.6	-147.42	1082	134.40	10 9.9	241.32	20.0	8.8	-17.38	864	43.70	51.1	-147.53	1126	136.40
12 10.8	254.77	0.0	0.0	0.0	815	40.00	60.9	-164.60	985	140.10	12 5.0	270.44	0.0	0.0	0.0	759	40.00	60.6	-144.67	1041	140.20
14 5.9	283.89	-20.0	-8.4	17.42	729	43.80	-45.4	148.98	874	136.30	14 0.0	299.55	-20.0	-8.2	17.46	689	43.80	-45.4	148.98	926	136.30
16 1.0	313.00	-30.0	-12.9	28.79	709	49.50	-40.7	137.47	817	130.50	16 50.1	328.66	-30.0	-12.6	28.85	671	49.50	-40.4	137.69	866	130.60
18 0.0	342.12	-35.0	-15.3	36.18	699	54.10	-38.7	130.32	789	126.00	18 45.2	357.77	-35.0	-15.0	36.24	671	54.10	-38.0	130.35	832	126.00
20 0.0	371.24	-40.0	-18.6	43.84	689	60.80	-35.3	128.66	759	119.20	20 40.3	386.88	-40.0	-17.8	43.93	668	60.80	-35.0	120.71	796	119.20
22 0.0	400.36	-45.0	-21.8	51.21	687	72.40	-31.3	105.34	726	107.60	22 35.4	415.99	-45.0	-21.9	51.28	680	72.40	-31.1	105.41	753	107.60
24 0.0	429.48	-47.4	-24.6	58.26	697	90.00	-26.6	87.30	697	90.00	24 30.5	445.10	-47.4	-24.3	58.33	709	90.00	-26.3	83.37	709	90.00
JUNE 10, 1963																					
0 35.4	90.58	47.4	29.6	-82.69	1129	90.00	29.6	-82.53	1129	90.00	0 30.5	114.71	47.4	29.0	-82.64	1106	90.00	29.0	-82.68	1106	90.00
2 30.5	119.70	49.0	25.0	-60.84	1089	72.30	35.7	-104.34	1150	107.70	2 25.6	143.82	45.0	23.5	-60.79	1050	72.30	34.7	-104.50	1144	107.70
4 25.6	148.81	40.0	19.8	-45.48	1049	60.70	40.9	-119.48	1151	119.40	4 20.7	172.93	40.0	19.1	-45.60	997	60.70	39.3	-119.63	1160	119.40
6 20.7	177.92	35.0	16.3	-35.51	1008	54.00	43.3	-129.01	1143	126.10	6 15.8	202.04	35.0	15.9	-35.60	955	54.00	42.7	-129.17	1162	126.10
8 15.8	207.04	30.0	13.5	-28.60	974	48.40	46.2	-134.27	1130	130.70	8 10.9	231.15	30.0	13.2	-28.68	917	48.40	45.7	-136.42	1158	130.70
10 10.9	236.16	20.0	8.7	-17.34	910	43.70	51.5	-147.45	1094	134.40	10 6.0	260.26	20.0	8.6	-17.39	851	43.70	51.0	-147.57	1136	136.40
12 6.0	265.27	0.0	0.0	0.0	800	40.00	60.8	-164.61	999	140.10	12 0.0	289.37	0.0	0.0	0.0	744	40.00	60.9	-164.69	1054	140.20
14 1.1	294.39	-20.0	-8.3	17.43	718	43.80	-45.4	148.99	887	136.30	14 50.0	318.48	-20.0	-8.2	17.47	680	43.80	-45.3	148.97	944	136.30
16 0.0	323.50	-30.0	-12.7	28.81	691	49.50	-40.7	137.60	829	130.50	16 45.0	347.59	-30.0	-12.5	28.87	665	49.50	-40.6	137.69	860	130.60
18 0.0	352.62	-35.0	-15.2	36.19	682	54.10	-38.1	130.33	799	126.00	18 40.1	376.70	-35.0	-14.9	36.26	663	54.10	-38.0	130.36	845	126.00
20 0.0	381.74	-40.0	-18.0	43.88	670	60.80	-35.1	128.68	768	119.20	20 35.2	405.81	-40.0	-17.7	43.95	667	60.80	-35.0	120.72	809	119.30
22 0.0	410.86	-45.0	-21.7	51.23	669	72.40	-31.3	105.36	732	107.60	22 30.3	434.92	-45.0	-21.5	51.30	662	72.40	-31.1	105.42	762	107.60
24 0.0	440.08	-47.4	-24.5	58.28	679	90.00	-26.6	87.32	699	90.00	24 25.4	464.03	-47.4	-24.2	58.35	715	90.00	-26.2	83.39	715	90.00
JUNE 11, 1963																					
0 30.6	91.04	47.4	29.5	-82.82	1125	90.00	29.5	-82.56	1125	90.00	0 25.5	115.82	47.4	28.9	-82.72	1098	90.00	28.9	-82.72	1098	90.00
2 25.7	120.15	49.0	25.0	-60.89	1091	72.30	35.8	-104.37	1156	107.70	2 20.6	146.93	45.0	23.4	-60.81	1039	72.30	34.9	-104.54	1140	107.70
4 20.8	149.26	40.0	19.9	-45.51	1051	60.70	40.9	-119.51	1157	119.40	4 15.7	178.04	40.0	19.0	-45.62	984	60.70	39.1	-119.68	1150	119.40
6 15.9	178.37	35.0	16.4	-35.54	1010	54.00	43.3	-129.04	1148	126.10	6 10.8	209.15	35.0	15.9	-35.62	941	54.00	42.3	-129.81	1165	126.10
8 11.0	207.48	30.0	13.6	-28.62	975	48.40	46.2	-134.29	1134	130.70	8 5.9	240.26	30.0	13.1	-28.70	903	48.40	45.9	-136.46	1163	130.70
10 6.1	236.59	20.0	8.8	-17.35	911	43.70	51.6	-147.47	1105	134.40	10 0.0	271.37	20.0	8.7	-17.41	856	43.70	50.8	-147.61	1144	136.40
12 1.2	265.70	0.0	0.0	0.0	801	40.00	60.8	-164.62	1016	140.10	12 50.0	300.48	0.0	0.0	0.0	753	40.00	60.4	-144.72	1049	140.20
14 0.0	294.81	-20.0	-8.3	17.44	705	43.80	-45.4	148.99	900	136.30	14 45.0	329.59	-20.0	-8.1	17.48	672	43.80	-45.3	148.96	928	136.30
16 0.0	323.92	-30.0	-12.7	28.82	684	49.50	-40.6	137.60	840	130.50	16 40.1	358.70	-30.0	-12.5	28.88	660	49.50	-40.6	137.69	893	130.60
18 0.0	353.04	-35.0	-15.1	36.21	677	54.10	-38.0	130.34	809	126.00	18 35.2	387.81	-35.0	-14.9	36.27	660	54.10	-38.0	130.35	858	126.00
20 0.0	382.16	-40.0	-17.9	43.90	674	60.80	-35.1	128.69	778	119.20	20 30.3	416.92	-40.0	-17.7	43.96	666	60.80	-35.0	120.72		